

**Oregon Tualatin Valley
Amateur Radio Club**

The OSCILLATOR

JULY 2009

Issue 2009:07
Our 31st Year

The Oregon Tualatin Valley Amateur Radio Club is a special service club related to ARRL: The National Association for Amateur Radio. We seek to advance the Amateur Radio Service through:

- ⇒ Education and Training of new and licensed amateurs
- ⇒ Public Service and Emergency communication
- ⇒ Hobby nets, contests and meetings
- ⇒ Social events

Membership is available to anyone. An amateur radio license is not required.

RUSS RUBY K7AU: THE REST OF THE STORY

On October 5th 2007 Russ Ruby K7AU posted the following note on the Elecraft email group:

I was out of active participation in amateur radio for about 30 years. My only amateur radio things which survive from my early days are the Vibroplex original bug my parents gave me when I passed my general exam, and guess what? My Ragchewers Club Certificate! Also surviving is the TenTec PM3A which was my last serious venture into amateur radio back in 1970/1971 when I started daydreaming about "trail radio".

Not hard to guess what got me back into amateur radio. While visiting the new downtown Seattle Public Library at its grand opening in May 2004, I paused to look through the latest copies of QST and CQ. I saw a photo of a fella wearing gloves on the trail operating a KX1! I was blown away. I looked for every scrap I could find about the KX1. Less than a month later, in one session I passed all the exams to be re-licensed as an Amateur Extra. I must say, the exams seem a lot easier than they were in the old days :) I'm thinking all the study for my Amateur Extra back then - which I never got around to taking - must have stuck with me!

Up to now, I have been using my bug and PM3A. But I just finished building my KX1 and am about to head out on the trail - in the glacier peak wilderness in Washington. I know, possible nasty weather and all that, but it will be fun!

CLUB MEETING

Wednesday, July 8th

Our club meeting will be held at The Peppermill Restaurant, 17455 SW Farmington Road in Beaverton on Wednesday, July 8th.

Russ Ruby K7AU, used his Elecraft KX-1 to summon help for himself when he was stranded in the Washington Cascades after breaking his leg. His compelling story will be told personally at our July 8th meeting.

Come at 6:00 PM and order off the menu. Our Club Meeting begins at 7:00 PM.

Family members and friends are welcome to come with you. Guests are always welcome and an amateur radio license is not required.

Check out our web site: www.otvarc.org.

2009

**Providence
Bridge Pedal**



Our communications help is needed again this year at *The Bridge Pedal* on Sunday Aug 9th in Portland. There are route changes again this year; but not as many as in past years. The 11 bridge ride starts at the entrance to the Fremont Bridge near Red Cross in NE Portland. Two other rides start downtown on Naito Parkway. Check out www.providence.org/bridgepedal for details. Let me know if you can help this year, by email, confirming your call sign and what size t-shirt you want. I know that some of you already let me know you want to help, but please confirm back with a call sign and shirt size anyway, so I know that I have a good e-mail address for you. Jim KB7ADH Jim.Schaeffer@sulzer.com. Here's a chance for some fun and community service.

THINKING ABOUT RTTY

In spite of the newer digital modes like PSK, Pactor, G-Tor and others, RTTY remains the favorite of contesters and DXers alike. RTTY does not use error correction, handshaking, or synchronizing, all of which slow things down. When quick back-and-forth exchanges are important, RTTY is the mode of choice. Roundtable discussions and nets which would be difficult or slow with other modes are a natural for RTTY, and RTTY is likely to be around for a long time to come.

RTTY is a fun and easy mode to operate, but there are a few things which may be puzzling to the newcomer. Please take a few minutes to read the following and you will probably save yourself some time and frustration, as well as becoming more knowledgeable about the basics of RTTY.

MARK AND SPACE

A RTTY transmitter sends out a continuous carrier which shifts frequency back and forth between two distinct frequencies. There is no amplitude modulation, only a pure carrier similar to CW with the addition of a frequency shift. The lower RF frequency is known as the SPACE frequency and the upper RF frequency is known as the MARK frequency. The difference between the two is known as the SHIFT. For amateur radio, the SHIFT has been standardized at 170 Hz. It is customary to refer to the MARK frequency as the frequency you are operating on. For example, if you say you are transmitting on 14080.00 kHz, that means your MARK frequency is 14080.00 kHz and your SPACE frequency is 170 Hz lower, or 14079.83 kHz. While 170 Hz is the standard shift, sometimes you will find stations using a shift of 200 Hz, but don't worry about it. MMTTY will copy either shift automatically, and the other station will copy your 170 Hz shift as well. It is not that critical.

FSK and AFSK

You will often hear the terms FSK and AFSK when talking about RTTY. FSK means Frequency Shift Keying and AFSK means Audio Frequency Shift Keying. Here is an important point: Regardless of which method is used, the RF signal sent out over the air is identical.

MARK is always the higher RF frequency and SPACE is always the lower RF frequency. The station receiving the RTTY signal can not tell any difference at all. So what is the difference? The difference is the way your transmitter generates the RF signal.

With FSK, your transmitter receives a simple on-off signal which causes the carrier frequency to shift back and forth. Since you'll be using MMTTY, the on-off signal will come from a COM port on your computer. Other stations which do not have a soundcard program like MMTTY would use a separate box called a TNC (Terminal Node Controller). The TNC does the same job that MMTTY does with your soundcard. FSK is simpler, easier and more foolproof than AFSK and is highly recommended if your transmitter supports FSK input. Check your owner's manual if you're not sure.

Since not all transmitters support FSK input, there is another method available with MMTTY. You guessed it - AFSK. AFSK can be used with any SSB transmitter. AFSK is a bit trickier to set up and use, but when it is done correctly, it works just as well as FSK and will transmit a perfect RTTY signal. Also, AFSK can do some things FSK can not, such as Automatic Frequency Control (AFC) of the transmitter.

To operate with AFSK, you put your transmitter in the SSB mode instead of FSK mode, and you put an audio signal into the microphone input (some transceivers have a rear connector for data input). When you transmit, MMTTY causes your sound card to put out a pair of audio tones which cause your transmitter to send the required RF output. Sounds simple, right? Here's the tricky part: The tones are two sine waves - nothing fancy - but the frequency and amplitude of the tones is critical. Let's say you want to transmit on 14080 kHz, as in the previous example.

Remember, your MARK signal has to be on 14080 kHz. How do you get there with AFSK? Here's how. With your transmitter in the LSB mode (Lower Side Band), whatever frequency goes into the microphone input will be subtracted from what your dial says and be transmitted on that frequency. For example if your dial says 14080 kHz and you put in a 1000 Hz audio tone, your

See RTTY — Page 5

LUNCH BUNCH

Join us for LUNCH BUNCH

Saturday, June 25, 2009

1:30 pm

Applebee's

1220 NW 185th Avenue

Just north of Walker Road

Beaverton - 503.690.8040

Talk-In: W7OTV - 146.960

Information?

Linda KC7YTD

503.246.8879

OTVARC ADDRESS:

880 NE 25th Ave Ste 2-160

Hillsboro OR 97124-6258

otvarc@gmail.com

ICE CREAM SOCIAL

Wednesday, August 12th

Rood Bridge Park

4000 SE Rood Bridge Rd

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Our August Club Meeting

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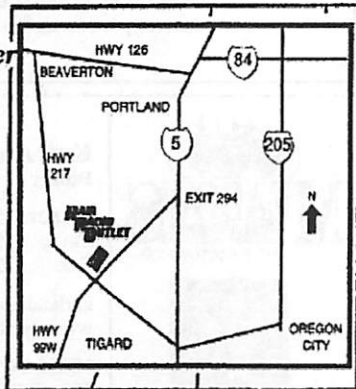
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PET HAM: CARE AND FEEDING

Pet hams are so intelligent they often seem human, but they can be difficult to raise. Only someone with great patience should attempt it. In case you do, here is a guide to the basics:

LIVING AREA – A pet ham needs a private nest area, an entire room where it will not be disturbed. Your pet ham will spend many happy hours alone there with its treasures – boxes, wires, bits of metal, glass, plastic, paper, etc, that it will bring home whenever it ventures out. You will want to encourage your pet ham to confine its activity to this room to prevent the entire house from being subjected to noise, clutter and the boring of holes in walls.

EXPENSES – Keeping a pet ham is expensive, but, unlike most pets, a pet ham can be trained to work outside the home for a few hours each day. It may even bring in enough money to offset its expenses.

FEEDING – A well-behaved pet ham will eat with the family occasionally, but it usually will feel more comfortable and secure taking its meals in the nest room. You must be sure your pet ham is well supplied with food and drink during the long periods it spends alone in there, even if it does not beg or whine.

OBEDIENCE TRAINING – A pet ham can be trained to perform simple tricks, the easiest and most common being "sit" and "speak." Do not be alarmed if it practices them for hours at a time in its nest room.

HEALTH PROBLEMS – The pet ham typically suffers lower back pain and minor throat irritations from too much sitting and speaking, but health maintenance costs tend to be minimal.

TRAVEL – Your pet ham will gladly travel with your family by car or even by air, if allowed to bring along certain familiar items from the nest room. Most pet hams enjoy trips to places where they can meet pet hams from other families.

BREEDING – If you plan to breed your pet ham, you should do so as soon as possible after you get it. As a pet ham matures, it becomes increasingly reluctant to engage in activities not associated with its nest room collection.

HAMFESTS & CONVENTIONS**18 July 2009**

Coos County Hamfest
 North Bend Middle School
 1500 16th Street
 North Bend, OR
 Coos County Radio Club
www.coosradioclub.net
 Marilyn Mansker KE7OAM
 96900 Sitkum Lane
 Myrtle Point, OR 97458
 Phone: 541-572-3406
ke7oam@yahoo.com

9 - 12 OCTOBER 2009

Pacific NW VHF Conf
<http://pnwvhfs.org>
 Shilo Inn North Prom
 Seaside Oregon
 Scott Honaker, N7SS
 14014 89th Avenue SE
 Snohomish, WA 98296
 425-330-5439
 Fax: 360-668-6073
n7ss@arri.net

24 October 2009

Swap-Tober - Fest
 Polk County Fairgrounds
 Hwy 99W in Rickreall, Oregon.
 More information:
www.swaptoberfest.net

Happy July Birthday

2	Betty Mickley	N7REX
2	Jim Schaeffer	KB7ADH
5	Rock Kent	W7ROK
6	Susan Hurd	N7EPE
7	Jim Mockley	W7JMM
7	Dee Lynch	K7JRB
10	Jim Bonner	KD7CJS
12	Russ Fillinger	W7LXR
13	Chuck Samuel	K7NWM
14	Steve Mathews	N7THK
14	John Anderson	KA7BRZ
21	Ronald O'Connor	KD7VIK
22	Larry Young	WB6EGS
26	Kristin Tomson	K7KWT
28	Chris Drummond	W6HFP
31	Bob Kuhn	KU7N

Have we missed your birthday?
 Likely we do not have your correct date in our database.

Send updates and corrections
 to otvarc@gmail.com

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To include your "Business Card" ad (\$48.00 annually) or "Display" - HRO size ad (\$60.00 annually), contact **Maureen O'Rourke** at 503.591.9641. There is currently limited space available.



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12655 SW North Dakota Street
 Tigard, Oregon 97223

FIELD DAY BRIEF REPORT

Our "first-look" at Field Day results for 2009 shows:

Band	CW	SSB	Digital	VHF/UHF
3.5 Mhz	159	108		
7.0 Mhz	189	276	10 PSK/5 RTTY	
14.0 Mhz	215	225	4 PSK/10 RTTY	
21.0 Mhz	42	26		
28.0 Mhz	1	86		
50.0 Mhz				26
Total	606	721	29	26

Per the summary from the N1MM software, we had a total of 1,382 QSO's for 2,016 points and a raw score of 4,032. We will exceed our 2008 outing when the add-on points are accumulated with our raw score. In 2008 we logged 789 contacts. From initial reports, we will go above our participant numbers as well.

RTTY, from Page 2

transmitter will put out an RF signal at 14079 kHz, exactly 1000 Hz lower than your dial. So in this case, if the 1000 Hz represented your MARK signal, you would have to set your transmitter to 14081 on the dial, and your MARK signal would be transmitted on 14080, just as you wanted. Ok so far?

Now, what about SPACE? Remember, you want your SPACE signal to be transmitted 170 Hz lower, on 14079.83 kHz. What audio tone will give you 14079.83? Simple - 14081 minus 14079.83, or 1170 Hz. So the MARK audio frequency is 1000 Hz and SPACE is 1170 Hz.

There you have the basics of AFSK. MMTTY generates the two audio frequencies and your transmitter converts them into two RF frequencies. For technical reasons related to harmonic generation, audio frequencies of 1000 Hz and 1170 Hz are NOT recommended. They are used in this example just to keep the math simple. The recommended audio frequencies are 2125 Hz for the MARK audio frequency and 2295 Hz for the SPACE audio frequency. Making the frequencies higher like this will reduce any second harmonics which might be generated in your transmitter.

Bill W7TI

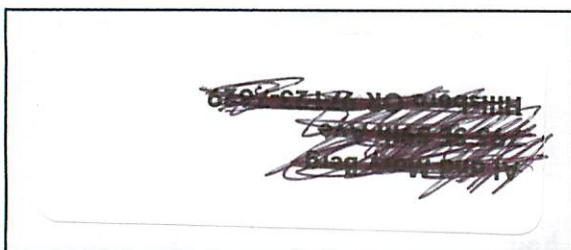
FIELD DAY OPERATORS

One objective for OTVARC in Field Day operations is giving as many operators as possible a chance to represent W7OTV on-the-air. This year, these operators were the voices of our club's call sign:

Name	Call
Phil Westover	WA7URV
Steve Ward	AD7OG
Kristen Tomson	K7KWT
Paul Thutt	KC7PMU
Don Stettler	KK7TN
Joel Simmons	AD7IS
Gavin Silaski	K7AWS
Will Sheffield	N7THL
Jim Schaeffer	KB7ADH
Kevin Rock	KD5ONS
Pat Roberson	W7PAT
Ron O'Connor	KD7VIK
Natalie Mealer	WA6QVM
Ian McCallum	NM7K
Matt Mc Kenzie	K6LNK
George Lottes	WG7U
Herb Hirst	K7HLH
Terrie Hill	KD7MMS
Dave Haupt	W8NF
Kathleen Haupt	KE7EVV
Robert Crocker	WN7O
Bill Conwell	K2PO
Carl Clawson	WS7L
Lynn Burrell	KE7WKM
John Bucsek	KE7WNB
Mike Brassler	W7SST
Don Baldwin	AA2V
Karl Anderson	NM7N

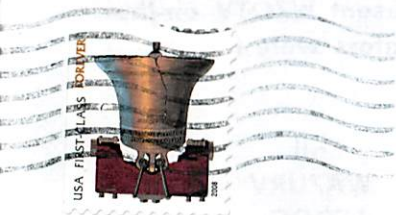
97123

CLUB MEETING
JULY 8TH



Web: WWW.OTVARC.ORG
w7olv@arll.net
Simplex: 147.54 MHz
Repeaters: 146.96 MHz (Goat Min)
223.94 MHz (Goat Min)
440.250 MHz (Goat Min)
440.350 MHz (127.3 KGON Tower)
Editor: Everett W6ABM w6abm@arll.net

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June 4 - 6, 2010

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